

Date: Monday, 6/19/2006 11:30:32 AM  
 User: Kim Johnston

## Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: AFT TUBE ASSEMBLY
Job Number	: 27641		
Estimate Number	: 10699		
P.O. Number	: N/A	Part Number	: D3391025
This Issue	: 6/19/2006 S.O. No. : N/A	Drawing Number	: D3391 REV E
Prsht Rev.	: NC	Project Number	: N/A
First Issue	: N/A Type : LANDING GEAR	Drawing Revision	: E
Previous Run	: 27640	Material	: N/A
Written By	: <u>[Signature]</u>	Due Date	: 7/20/2006 Qty: 1 Um: Each
Checked & Approved By	: <u>[Signature] 06.06.19</u>		
Comment	: Est Rev B 06-02-07 ECN773 dwg rev. D EC Est Rev: C 06-03-28 Update Manufacturing Instructions JLM		

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	D6014090	ALUMINUM EXTRUSION
-----	----------	--------------------



Comment: Qty.: 1.0000 f(s)/Unit Total: 1.0000 f(s)

ALUMINUM EXTRUSION

Pick: J

Qty Part Number Description Batch

1 D6014-090 Extrusion B26546

Identify as D3391-3

MS 06/08/15

2.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
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Comment: MORI SEIKI CNC LATHE LARGE

Turn as per Folio FA599

Rev: D &amp; Dwg D3391 Rev: E

BC/ MS 06/08/15

3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
-----	-----	--



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

BC/ MS 06/08/15

4.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
-----	-------	--------------------------------



Comment: HAAS

1-Machine as per Folio FA 599 Rev: AA &amp; Dwg D3391 Rev: E

2-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

3-Deburr

Jml 06/08/24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Monday, 6/19/2006 11:30:33 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 27641

Part Number: D3391025

Job Number:



Seq. # Machine Or Operation: Description :

5.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

*mf 06/08/24*

6.0

QC8

SECOND CHECK



Comment: SECOND CHECK

*Er 06/09/25 71*

7.0

BENDING

BENDING MACHINE



Comment: NC Bender

Form as per Dwg D3391 Using Bend Prog 3391025

*DP 6-8-29*

8.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*BF 6-8-30*

9.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill Tube as per D3391 using DT8809 (HOLES MARKED "A" ONLY)

3-Drill and c' sink wearshoe holes as per Dwg D3391 Using DT8878(Mid Tube) & DT8217 Wearplate Jig *pm 06-08-30*

4-C'sink holes for float bag (4 holes per side) as per Dwg D3391 *pm 06-08-31*

5-Deburr *pm 06-08-31*

Tools: rill

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

*Job 09.05*

11.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

*FC 06 10 10*

*1*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 27641

Part Number: D3391025

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

h 101575

Q.N 06/10/10

(1)

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

06 10 10

(1)

14.0

NAS1330C3KB166

INSERT



Comment: Qty.: 8.0000 Each(s)/Unit Total : 8.0000 Each(s)

INSERT

Pick:

Qty	Part Number	Description	Batch
8	NAS1330C3KB166	Insert	100732

FC 06 10 10 (1)

15.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Install Inserts as per dwg

FC 06 10 10 (1)

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

06 10 10

(1)

17.0

AESS10KB366

INSERT



Comment: Qty.: 14.0000 Each(s)/Unit Total : 14.0000 Each(s)

Insert

Pick:

Qty	Part Number	Description	Batch
14	AESS10KB366	Insert	101248

FC

18.0

AESS10KB266

INSERT



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

INSERT

Pick:

Qty	Part Number	Description	Batch
2	AESS10KB266	Insert	17905

or NAS1330C3KB266

FC

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Date: Monday, 6/19/2006 11:30:33 AM  
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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 27641

Part Number: D3391025

Job Number:



Seq. #:

Machine Or Operation:

Description :

19.0

AESS10KB316

INSERT



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

INSERT

Pick:

Qty Part Number Description Batch

2 AESS10KB316 Insert

or NAS1330C3KB316

17905

FC 06 10 10

20.0

D2646

Aft Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Aft Cap

Pick:

Qty Part Number Description Batch

1 D2646 Aft Cap

28041

21.0

AN3C4A

BOLT



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

Pick:

Qty Part Number Description Batch

2 AN3C4A Bolt

101390

22.0

AN960C10L

washer



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Inventory

Pick:

Qty Part Number Description Batch

2 AN960C10L Washer

101340

23.0

NAS1515H3L

WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

WASHER

Pick:

Qty Part Number Description Batch

2 NAS1515H3L Washer

101340

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes ☐ No ☒ DQA: ☒ Date: 26/10/11

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_



Date: Monday, 6/19/2006 11:30:33 AM  
User: Kim Johnston

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 27641

Part Number: D3391025

Job Number:



Seq. #:

Machine Or Operation:

Description :

24.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Install inserts as per Dwg D3391

FC

06 10 10

①

2-Install Aft Cap as per Dwg D3391

A/R Sikaflex-241/-291 101953

Sikaflex expiry date: 10 21 06

FC

06 10 10

①

25.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

06 10 10

①

26.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: N/A

FC

06 10 11

①

27.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

06/18/11

Job Completion



U 06/10/11

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Mfg / Design Mgr	Approval QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Design Mgr	Approval QC Inspector
			Initial Design Mgr	Action Description Design Mgr	Sign & Date			

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

NOTE: Date & initial all entries

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	<b>27641</b>
<b>Description:</b> Float Skidtube (412)		<b>Part Number:</b>	<b>D3391-3</b>
<b>Inspection Dwg:</b> D3391	<b>Rev:</b> <i>05-05.19 RH</i>	<b>Page 1 of 1</b>	

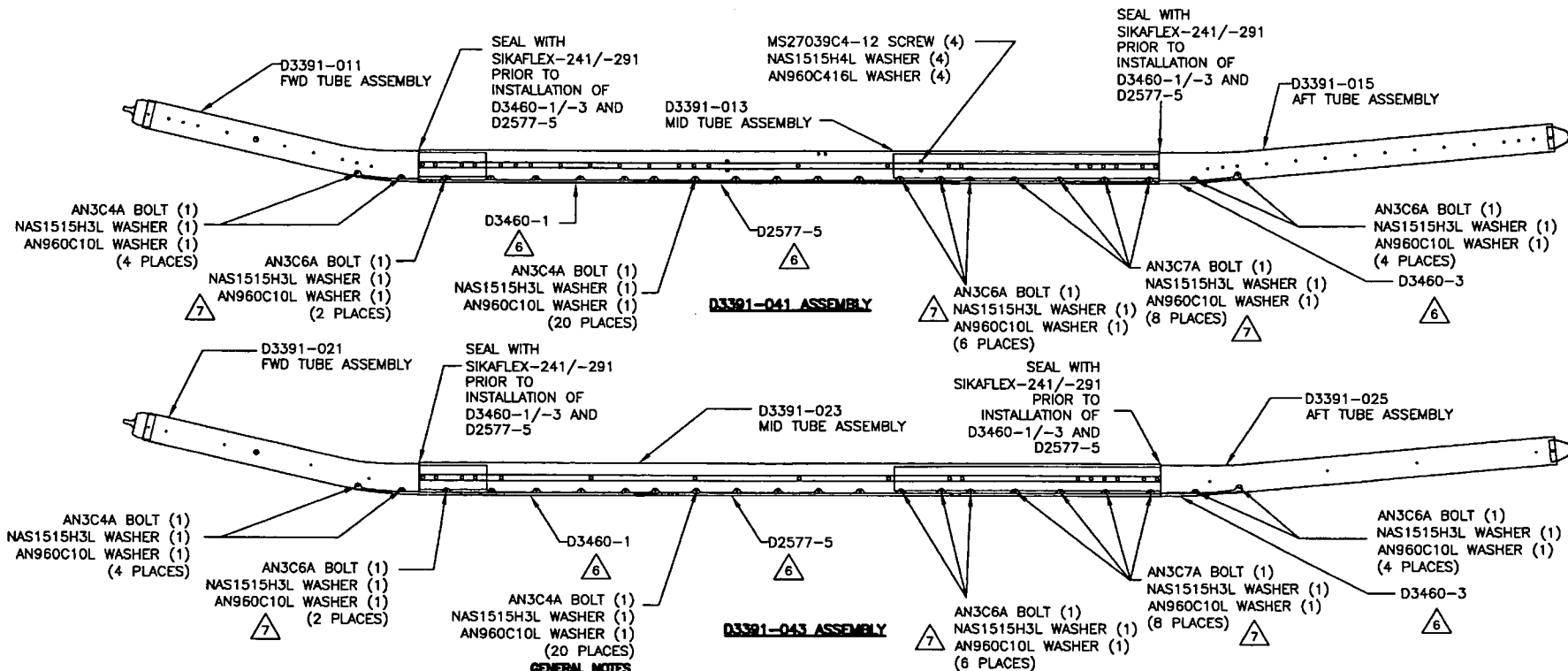
### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
14.000	+/-0.010	14.000	✓			
3.500	+/-0.010	3.496	✓			
88.93	+/-0.030	88.92	✓			
44.995	+/-0.030	45.00	✓			
3.200	+/-0.010	3.201	✓			
1.526	+0.000/-0.030	1.520	—			
0.200	+/-0.010	0.205	—			
7.500	+/-0.010	7.492	✓			
27.750	+/-0.010	27.750	—			
31.750	+/-0.010	31.750	—			
35.250	+/-0.010	35.250	—			
0.400	+/-0.010	0.396	✓			
<del>00.208</del>	<del>+0.005/-0.004</del>					
3.300	+/-0.010	3.293	—			
0.200	+/-0.010	0.205	—			
3.520	+/-0.010	3.520	—			
0.687	+0.010/-0.000	0.687	—			
R0.062	+/-0.010	R0.062	✓			
Ø0.484	+0.005/-0.001	Ø0.484	✓			

<b>Measured by:</b> <i>MS/BC/FML</i>	<b>Audited by:</b> <i>Er</i>	<b>Prototype Approval:</b>	N/A
<b>Date:</b> 06/08/16	<b>Date:</b> 06/08/25	<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-025	KJ/JLM	<i>[Signature]</i>



# **D3391-041/-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

QTY - 041	QTY - 043	PART NUMBER	DESCRIPTION
X	X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
		D3391-043	FLOAT SKIDTUBE ASSEMBLY
1		D3391-011	FWD TUBE ASSEMBLY
1		D3391-013	MID TUBE ASSEMBLY
1		D3391-015	AFT TUBE ASSEMBLY
	1	D3391-021	FWD TUBE ASSEMBLY
	1	D3391-023	MID TUBE ASSEMBLY
	1	D3391-025	AFT TUBE ASSEMBLY
24	24	AN3C4A	BOLT
12	12	AN3C6A	BOLT
8	8	AN3C7A	BOLT
44	44	NAS1515H3L	WASHER
44	44	AN960C10L	WASHER
4		MS27039C4-12	SCREW
4		NAS1515H4L	WASHER
4		AN960C416L	WASHER
1	1	D2577-5	WEARSHOE
1	1	D3460-1	WEARSHOE
1	1	D3460-3	WEARSHOE

- 1) ALL DIMENSIONS ARE IN INCHES
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 4) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCOYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL 'E' SIZE HOLES (#0.250-#0.257) FOR WEARSHOE INSERTS.  
C/SINK #0.391/#0.425 x 100" AS APPLICABLE AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- 6) APPLY A LAYER OF SIKAFLEX -241/-291 ADHESIVE BETWEEN THE BOTTOM OF THE SKIDTUBE ASSEMBLY AND THE WEARPLATES
- 7) DO NOT TORQUE, HAND TIGHTEN ONLY

D

RELEASED

06-05-03

E	06.04.25	CHANGE TOLERANCE,EASE MANUFACTURE
D	06.01.23	UPDATE TOLERANCE, CHANGE HOLE SIZE
C	05.09.27	LENGTHEN AFT EXTENSION
B	05.06.10	DRAWING UPDATES
A	05.02.07	NEW ISSUE
DESIGN	PH	DRAWN BY PH
CHECKED	PH	APPROVED
DATE	06.04.25	TITLE
		412 FLOAT SKIDTUBE

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**DART** DART AEROSPACE USA, INC.  
PORT HADLOCK, OH

REV. E

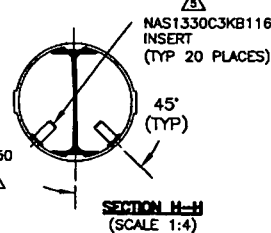
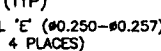
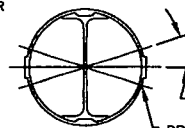
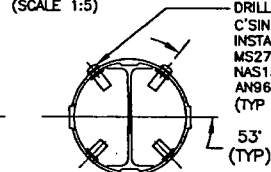
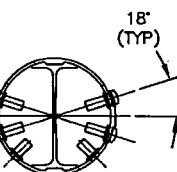
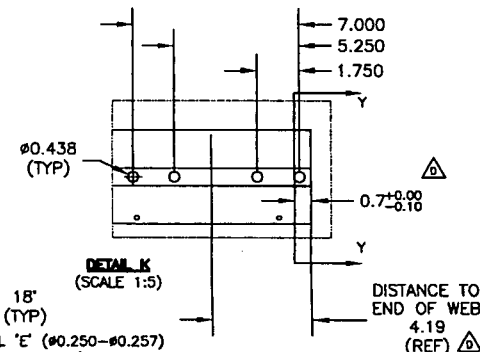
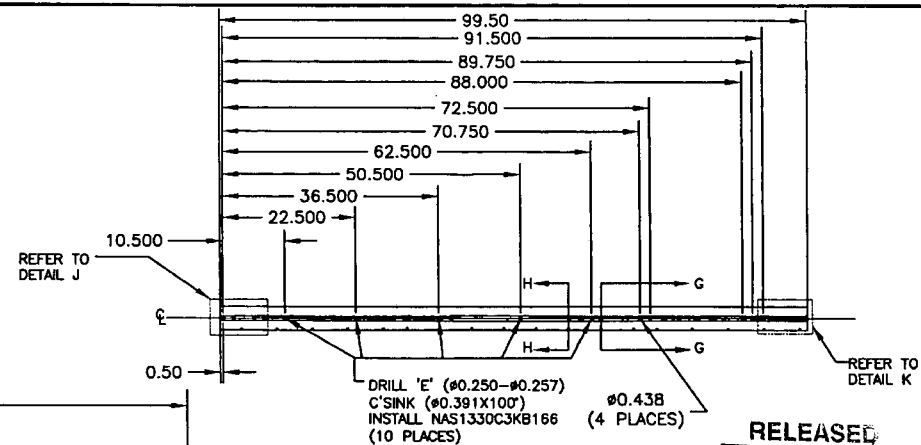
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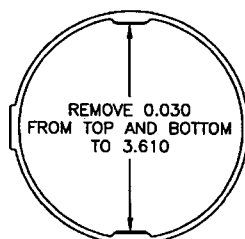
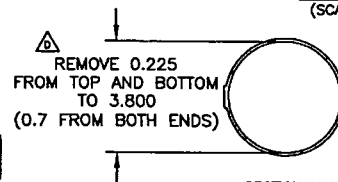
NTS

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 276411





QTY - 013	QTY - 023	PART NUMBER	DESCRIPTION
X		D3391-013	MID TUBE ASSEMBLY
	X	D3391-023	MID TUBE ASSEMBLY
1	1	D2500-1-100	EXTRUSION
1	1	D3389-1	WEB
24	20	NAS1330C3KB116	INSERT
24	10	NAS1330C3KB166	INSERT
4		NAS1329C4KB140	INSERT
4		NAS1515H3L	WASHER
4		AN980C10L	WASHER
4		NAS1515H4L	WASHER
4		AN980C416L	WASHER
4		MS27039C1-09	SCREW
4		MS27039C4-08	SCREW



D3391-013/-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015

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## DESIGN

2

CHECKS

014284

0.4307

DATE \_\_\_\_\_

DRAWN BY

PH

APPROVED

ATTACHED

--	--

**DART** DART AEROSPACE USA, INC.  
PO BOX 1000000  
HOUSTON, TEXAS 77255-0000

DRAWING NO.

DRAWING NO  
D3391

03391

TITLE	
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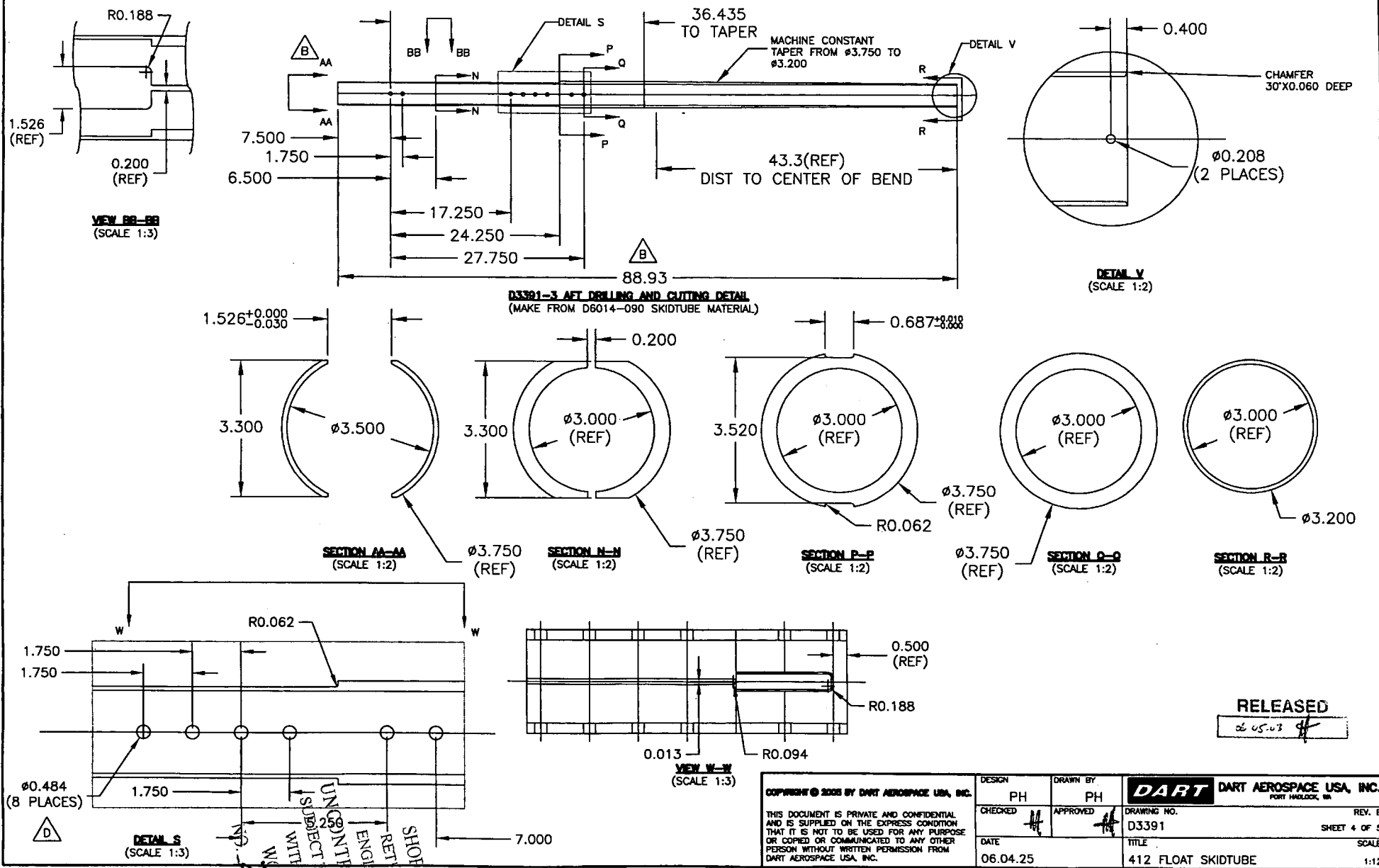
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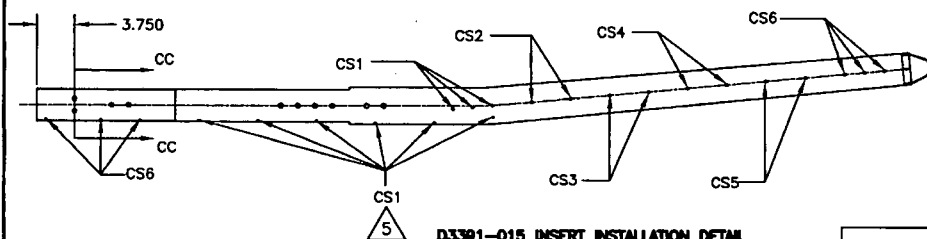
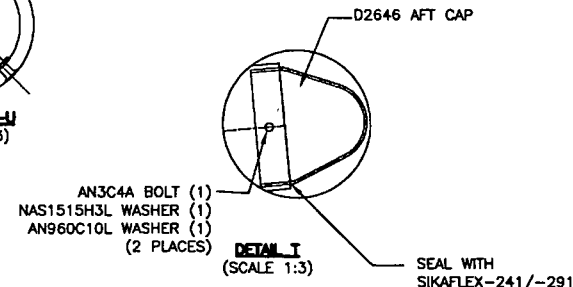
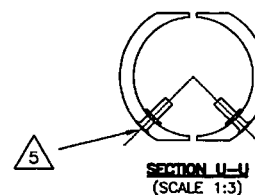
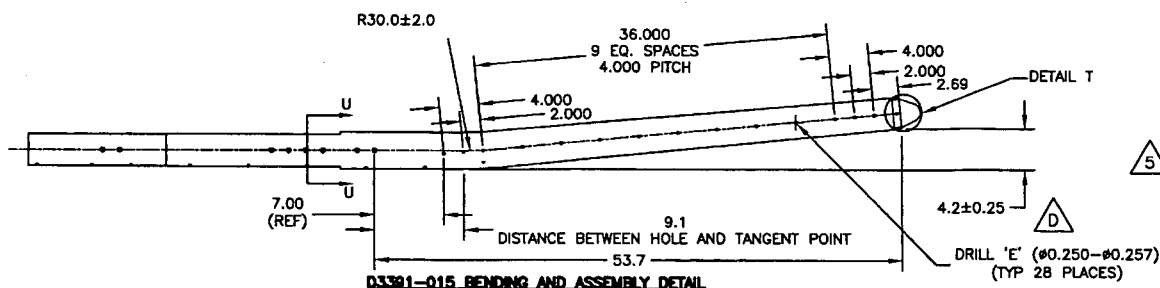
REV. E

3 of 5

SCALE

INC. 241/-291 PER C  
-100 EXTRUSION  
BE USING SIKAFLEX  
CONTROLLED COPY  
ENGINEERING  
RETURN TO  
SHOP COPY  
WITHOUT NOTICE  
WORK ORDER  
27647



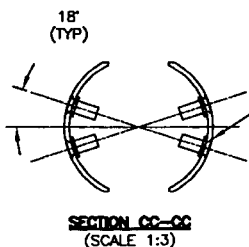
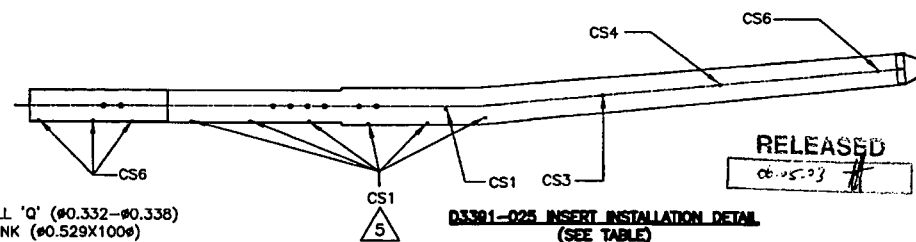
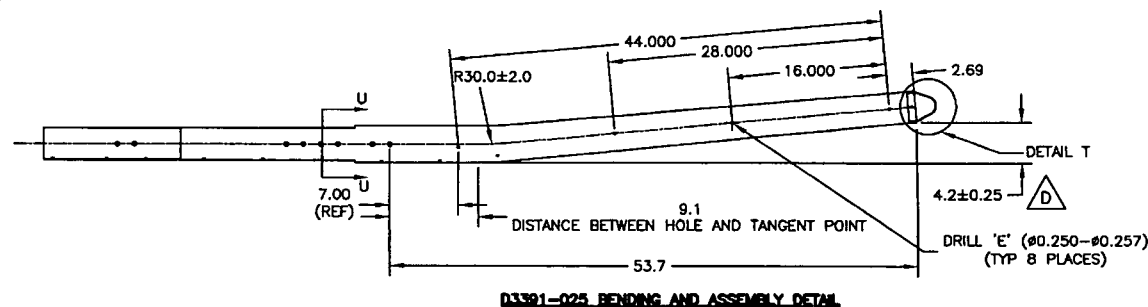


C'SINK AND INSTALL AESS10KBXXX AND/OR NAS1330C3KBXXX IN HOLES MARKED CS1-CS6 AS FOLLOWS

HOLES MARKED	QTY D6581-315	QTY D3391-025	C'SINK	P/N
CS1	18	14	Ø0.425	AESS10KB386
CS2	4	2	Ø0.391	AESS10KB386
CS3	4	2	Ø0.391	NAS1330C3KB316
CS4	4	2	Ø0.391	NAS1330C3KE266
CS5	4	2	Ø0.391	NAS1330C3KE216
CS6	12	8	Ø0.391	NAS1330C3KE166

**D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST**

QTY - 016	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
18	14	AESS10KB386	INSERT
4	2	NAS1330C3KB316	INSERT
4	2	NAS1330C3KB266	INSERT
4	2	NAS1330C3KB216	INSERT
12	8	NAS1330C3KB166	INSERT
4	2	NAS1330C4KB151	INSERT
2	2	AN3C4A	BOLT
2	2	NAS1515H3L	WASHER
2	2	AN960C10L	WASHER



DRILL 'Q' (#0.332-#0.338)  
C'SINK (#0.529X100°)  
NAS1330C4KB151 INSERT (1)  
(4 PLACES)

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							SHEET 5 OF 5	
		DATE 06.04.25	TITLE 412 FLOAT SKIDTUBE		SCALE 1:12			

NO  
27641  
WORK ORDER  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
ENGINEERING  
RETURN TO  
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